

IN THE CLAIMS

1. A continuous hydrolytic polymerization process for the formation of polyamides or copolyamides comprising:

- 5 (a) polymerizing an aqueous salt mixture of diacids and diamines suitable to form a polyamide or copolyamide under conditions of temperature and pressure sufficient to yield a reaction mixture in multiple phases, but for a time sufficient to avoid phase separation;
- (b) transferring heat into said reaction mixture while reducing pressure of said
10 reaction mixture sufficient to remove the water therefrom without solidification thereof; and
- (c) further polymerizing said reaction mixture having the water removed and until a copolymerized product of desired molecular weight is achieved.
- 15 2. The process of Claim 1 carried out in a natural circulation thermosyphon.
3. The process of Claim 1 wherein one of the diacids is terephthalic acid.
4. The process of Claim 1 wherein the polyamide is a random copolymer of
20 polyhexamethylene terephthalamide and polyhexamethylene adipamide.
5. The process of claim 1 wherein the polyamide is a random copolymer of polyhexamethylene terephthalamide and 2-methyl-pentamethylene terephthalamide.
- 25 6. The process of Claim 1 wherein step (b) is achieved using apparatus having a sufficient pressure drop.
7. The process of Claim 6 wherein said pressure drop is at least 300 psig.
- 30 8. The process of Claim 1 wherein the polyamides are selected from polymers and copolymers based upon PA-66 and PA-6T.